

Appl. No. 10/063,868

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (original): An electric drive assembly comprising a torque generator; an inverter assembly which is coupled to said torque generator; a current regulator which is coupled to said inverter assembly; and a controller which is coupled to said current regulator, said controller receiving a torque request signal and, in response to said received torque request signal, said controller selects a certain value and generates a signal to said inverter assembly which is effective to cause said inverter assembly to produce a voltage signal having a certain amplitude attribute and a certain phase angle attribute, said controller further compares at least one of said attributes of said voltage signal with said selected certain value and, based upon said comparison, generates a signal indicative of undesired torque generation.

Claim 2 (currently amended): The ~~method~~ electric drive assembly of Claim 1 wherein said certain value comprises a voltage value.

Claim 3 (original): The electric drive assembly of Claim 1 wherein said certain value comprises a phase angle value.

Claim 4 (previously presented): The electric drive assembly of Claim 1 wherein said electric drive assembly comprises a positive feedback assembly which is coupled to said controller and which is selectively activated by said signal indicative of undesired torque generation which is generated by said controller.

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Claim 5 (previously presented): The electric drive assembly of Claim 4 wherein said signal indicative of undesired torque generation is generated by said controller only when the difference between said at least one attribute of said voltage signal and said selected certain value is greater than a predetermined value.

Claim 6 (original): The electric drive assembly of Claim 5 wherein said predetermined value is about ten percent of said selected certain value.

Claim 7 (currently amended) The electric drive assembly of Claim ~~[[1]]~~ 4 wherein said positive feedback assembly comprises an audio assembly.

Claim 8 (currently amended) The electric drive assembly of Claim ~~[[1]]~~ 4 wherein said positive feedback assembly comprises a light assembly.

Claim 9 (previously presented) An electric drive assembly comprising a torque map portion which receives a predetermined torque request and which uses said predetermined torque request to produce a predetermined electrical current value; a model portion which receives said predetermined torque request and which uses said predetermined torque request to produce a predetermined voltage value; a current regulator which receives an electrical current signal having a value which is substantially similar to said predetermined electrical current value and which, in response to said receipt of said electrical current signal, produces a second voltage signal having a

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predetermined second voltage value; and a diagnostic portion which is coupled to said current regulator and to said model portion and which compares said predetermined voltage value with said predetermined second voltage value, and which determines the existence of a certain condition based upon said comparison.

Claim 10 (previously presented): The electric drive assembly of Claim 9 wherein said certain condition is determined to exist only if the difference between said predetermined voltage value and said predetermined second voltage value exceeds a certain condition threshold value.

Claim 11 (previously presented): The electric drive assembly of Claim 10 wherein said certain condition threshold value is about 10% of said predetermined voltage value.

Claim 12 (previously presented): The electric drive assembly of Claim 11 wherein said diagnostic portion provides a signal indicative of an undesired condition to a positive feedback assembly.

Claim 13 (previously presented): The electric drive assembly of Claim 12 wherein said positive feedback assembly comprises a light assembly.

Claim 14 (previously presented): The electric drive assembly of Claim 12 wherein said positive feedback assembly comprises an audio assembly.

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Claim 15 (original): The electric drive assembly of Claim 12 further comprises a selectively activatable machine and wherein said diagnostic portion deactivates said machine upon the detection of said certain condition.

Claim 16 (currently amended): A method for controlling torque within an electric drive assembly said method comprising the steps of:

comparing a produced voltage command having a certain amplitude attribute and a certain phase angle attribute with a second voltage command having certain amplitude attribute and a certain phase angle attribute; ascertaining the existence of a certain condition ~~operational state~~ of said electric drive assembly based upon said comparison;

and generating a signal indicative of undesired torque when the existence of said certain ~~operational~~ is condition exceeds a certain condition threshold value ascertained.

Claim 17 (currently amended): The method of Claim 16 further comprising the step of activating a positive feedback assembly to notify an operator of said electric drive assembly of undesirable torque generation when said signal indicative of undesired torque is generated.

Claim 18 (currently amended): The method of Claim 17 wherein said step of activating a positive feedback assembly to notify an operator of said electric drive assembly of undesirable torque generation when said signal indicative of undesired torque is generated comprises the step of energizing a light assembly.

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Claim 19 (currently amended) The method of claim 17 wherein said step of activating a positive feedback assembly to notify an operator of undesirable torque generation when said signal indicative of undesired torque is generated comprises the step of energizing an audio assembly.

Claim 20 (currently amended): A method for controlling torque within an electric drive assembly comprising the step of:

providing an electric drive assembly having a torque generator, an inverter assembly which is coupled to said torque generator, a current regulator which is coupled to said inverter assembly, and a controller which is coupled to said current regulator;

receiving a torque request signal;

using said controller to select a certain value associated with said torque request signal;

producing a voltage signal having a certain amplitude attribute and a certain phase angle attribute in response to said received torque request signal;

comparing at least one of said attributes of said voltage signal with a selected certain value; and

generating a signal indicative of undesired torque generation when an undesired amount of torque is being produced by said electric drive assembly.

Claim 21 (cancelled)

Claim 22 (currently amended): The method of claim 20 [[21]] using the controller to generate said signal indicative of undesired torque generation.

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Claim 23 (previously presented): The method of Claim 22 further comprising the step of:

selectively activating a positive feedback assembly when said signal indicative of undesired torque generation is generated by said controller.

Claim 24 (previously presented): The method of Claim 23 further comprising the step of:

generating said signal indicative of undesired torque generation only when the difference between said at least one attribute of said voltage signal and said selected certain value is greater than a predetermined value.

Claim 25 (previously presented): A method for controlling an electric drive assembly comprising the steps of

providing an electric drive assembly having a torque map portion, a model portion, a current regulator, and a diagnostic portion;

receiving a predetermined torque request in said torque map portion;

using said predetermined torque request to produce a predetermined electrical current value;

receiving said torque request in said model portion;

using said predetermined torque request to produce a predetermined voltage value;

providing a current regulator which receives an electrical current signal having a value which is substantially similar to said predetermined electrical current value;

producing a second voltage signal having a predetermined second voltage value;

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comparing said predetermined voltage value with said
predetermined second voltage value and
determining an existence of a certain condition based upon
said comparison.